U.S. Application No. 10/538,012 Inventors: David SKUSE et al. Attorney Docket No. 07810.0135-00 Response to Notice of Non-Compliant Amendment mailed December 10, 2009

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the

application. Please amend claims 1, 19, 35, 36, and 38, as follows:

1. (Currently Amended) A composition comprising:

a first pigment component comprising particulate ground calcium carbonate

(GCC) having a particle size distribution (psd) steepness factor ranging from about 30 to

less than 38 less than about 36; and

a second pigment component comprising particulate precipitated calcium

carbonate (PCC) having a psd steepness factor ranging from about 55 to about 75 and

a d₅₀ not greater than 0.5µm.

2. (Previously Presented) A composition according to claim 1, wherein the

first and second component particles are present in an amount such that the weight

ratio of the first component particles to the second component particles ranges from

about 5:95 to about 95:5.

3. (Previously Presented) A composition according to claim 2, wherein the

weight ratio of the first component particles to the second component particles ranges

from about 10:90 to about 90:10.

Page 2 of 11

U.S. Application No. 10/538,012 Inventors: David SKUSE et al. Attorney Docket No. 07810.0135-00

Response to Notice of Non-Compliant Amendment mailed December 10, 2009

4 (Previously Presented) A composition according to claim 3, wherein the weight ratio of the first component particles to the second component particles ranges from about 30:70 to about 70:30

- (Previously Presented) A composition according to claim 1, further comprising a kaolin clay.
- 6. (Previously Presented) A composition according to claim 5, wherein said kaolin clay is present in an amount such that the weight ratio of the first and second calcium carbonate pigments to the kaolin clay is at least about 10:90.
- 7. (Previously Presented) A composition according to claim 6, wherein the weight ratio is at least about 70:30.
- 8. (Previously Presented) A composition according to claim 1, wherein said composition is a pigment in the form of a dry particulate mixture.
- 9 (Previously Presented) A composition according to claim 1, wherein said composition is a pigment in the form of a suspension of said particles in a liquid medium.
- 10. (Previously Presented) A composition according to claim 1, wherein said composition is a pigment for paper and other substrates.

U.S. Application No. 10/538,012 Inventors: David SKUSE et al. Attorney Docket No. 07810.0135-00

Response to Notice of Non-Compliant Amendment mailed December 10, 2009

OK TO ENTER: /S.A./

- 11. (Previously Presented) A composition according to claim 1, wherein the second pigment component comprises PCC having a d₅₀ of less than 0.5µm.
- (Previously Presented) A composition according to claim 1, wherein the second pigment component comprises PCC having a d₅₀ of less than 0.45µm.
- 13. (Previously Presented) A composition according to claim 1, wherein the second pigment component comprises PCC having a d_{50} of less than 0.40 μm .
- 14. (Previously Presented) A composition according to claim 1, wherein the second pigment component comprises PCC having a d_{50} of less than 0.35 μm .
- (Previously Presented) A composition according to claim 1, wherein the second pigment component comprises PCC having a d₅₀ ranging from 0.2µm to 0.5µm.
- (Previously Presented) A composition according to claim 1, wherein the second pigment component comprises PCC having a d₅₀ ranging from 0.3µm to 0.5µm.
- 17. (Previously Presented) A composition according to claim 1, wherein the second pigment component comprises PCC having a d_{50} of about $0.4\mu m$.

U.S. Application No. 10/538.012 Inventors: David SKUSE et al. Attorney Docket No. 07810.0135-00

Response to Notice of Non-Compliant Amendment mailed December 10, 2009

- 18 (Previously Presented) A composition according to claim 1, wherein the composition consists essentially of the first pigment component and the second pigment component: the first pigment component consists essentially of the GCC and the second pigment component consists essentially of the PCC.
- 19. (Currently Amended) A coating composition comprising an aqueous suspension of at least one particulate pigment and at least one binder, wherein the particulate pigment comprises a mixture of:

a first pigment component comprising particulate GCC having a psd steepness factor ranging from about 30 to less than 38 less than about 36; and

a second pigment component comprising particulate PCC having a psd steepness factor ranging from about 55 to about 75 and a d₅₀ not greater than 0.5µm.

- 20. (Previously Presented) A coating composition according to claim 19, wherein the pigment is for paper and other substrates.
- 21. (Previously Presented) A coating composition according to claim 19, wherein the at least one binder is present in an amount ranging from about 4% to about 30% of the solids of the composition on a dry weight basis.
- 22. (Previously Presented) A coating composition according to claim 19. wherein the at least one binder comprises a modified starch.

02/11/2010

U.S. Application No. 10/538,012 Inventors: David SKUSE et al. Attorney Docket No. 07810.0135-00

Response to Notice of Non-Compliant Amendment mailed December 10, 2009

- (Previously Presented) A coating composition according to claim 19, wherein the at least one binder comprises an unmodified starch.
- (Previously Presented) A coating composition according to claim 22,
 wherein the at least one binder comprises a component other than starch.
- 25. (Previously Presented) A coating composition according to claim 19, further comprising: one or more cross linkers; one or more water retention aids; one or more viscosity modifiers and/or thickeners; one or more lubricity/calendering aids; one or more dispersants; one or more antifoamers/defoamers; one or more dry or wet pick improvement additives; one or more dry or wet rub improvement and/or abrasion resistance additives; one or more gloss-lnk hold-out additives; one or more optical brightening agents (OBA) and/or fluorescent whitening agents (FWA); one or more dyes; one or more biocides/spoilage control agents; one or more leveling and evening aids; one or more grease and oil resistance additives; one or more water resistance additives; one or more additional pigments; or any combination thereof.
- 26. (Previously Presented) A coating composition according to claim 19, further comprising an optional component in an amount of less than about 10% by weight, relative to the total weight of the composition.

02/11/2010 U.S. Application No. 10/538,012 Attorney Docket No. 07810.0135-00

Response to Notice of Non-Compliant Amendment mailed December 10, 2009

27. (Previously Presented) A coating composition according to claim 19, wherein the second pigment component comprises PCC having a d₅₀ of less than 0.5µm.

- 28. (Previously Presented) A coating composition according to claim 19. wherein the second pigment component comprises PCC having a d₅₀ of less than 0.45um.
- 29. (Previously Presented) A coating composition according to claim 19, wherein the second pigment component comprises PCC having a d₅₀ of less than 0.40um.
- 30. (Previously Presented) A coating composition according to claim 19. wherein the second pigment component comprises PCC having a d₅₀ of less than 0.35um.
- 31. (Previously Presented) A coating composition according to claim 19. wherein the second pigment component comprises PCC having a d₅₀ ranging from 0.2µm to 0.5µm.
- 32. (Previously Presented) A coating composition according to claim 19. wherein the second pigment component comprises PCC having a d₅₀ ranging from 0.3um to 0.5um.

/Shuangyi Abu Ali/

02/11/2010 U.S. Application No. 10/538,012 Inventors: David SKUSE et al. Attorney Docket No. 07810.0135-00

Response to Notice of Non-Compliant Amendment mailed December 10, 2009

33. (Previously Presented) A coating composition according to claim 19. wherein the second pigment component comprises PCC having a d₅₀ of about 0.4µm.

- 34. (Previously Presented) A coating composition according to claim 19. wherein the coating composition consists essentially of the aqueous suspension of the at least one particulate pigment and the at least one binder, and wherein the at least one particulate pigment consists essentially of the mixture of the first pigment component and the second pigment component and wherein the first pigment component consists essentially of the particulate GCC, and the second pigment component consists essentially of the particulate PCC.
- 35. (Currently Amended) A method for preparing a coating composition comprising mixing at least one particulate pigment comprising a mixture of:

a first pigment component comprising particulate GCC having a psd steepness factor ranging from about 30 to less than 38 less than about 36; and

a second pigment component comprising particulate PCC having a psd steepness factor ranging from about 55 to about 75 and a d₅₀ not greater than 0.5 um: and at least one binder into an aqueous liquid medium and then preparing a suspension of the solid components therein.

36. (Currently Amended) A method for preparing a coated product, comprising applying to said product a composition comprising an agueous suspension /Shuangyi Abu Ali/ OK TO ENTER: /S.A./

02/11/2010

U.S. Application No. 10/538,012 Inventors: David SKUSE et al. Attorney Docket No. 07810.0135-00

Response to Notice of Non-Compliant Amendment mailed December 10, 2009

of at least one particulate pigment and at least one binder, wherein the particulate pigment comprises a mixture of:

a first pigment component comprising particulate GCC having a psd steepness factor ranging from about 30 to less than 38 less than about 36; and

a second pigment component comprising particulate PCC having a psd steepness factor ranging from about 55 to about 75 and a d_{50} not greater than 0.5 μ m; further comprising calendering said product to form a coating thereon.

- (Original) A method according to claim 36, wherein said product is in the form of paper, board, card, or paper board.
- 38. (Currently Amended) A product coated with a coating comprising a dry residue of a composition comprising an aqueous suspension of at least one particulate pigment and at least one binder, wherein the particulate pigment comprises a mixture of:

a first pigment component comprising particulate GCC having a psd steepness factor ranging from about 30 to less than 38 less than about 36; and

a second pigment component comprising particulate PCC having a psd steepness factor ranging from about 55 to about 75 and a d_{50} not greater than 0.5 μ m.

 (Original) A product according to claim 38, wherein said product is in the form of paper, board, card, or paper board.

02/11/2010

U.S. Application No. 10/538,012 Inventors: David SKUSE et al. Attorney Docket No. 07810.0135-00

Attorney Docket No. 07810.0135-00
Response to Notice of Non-Compliant Amendment mailed December 10, 2009

- 40. (Previously Presented) A composition according to claim 5, wherein said kaolin clay has a d_{50} of greater than or equal to about 0.5 μ m.
- 41. (Previously Presented) A composition according to claim 5, wherein said kaolin clay has a d_{50} less than about 0.5 μ m.
- 42. (Previously Presented) A composition according to claim 40, wherein said kaolin clay has a d_{50} ranging from about 0.5 μ m to about 1.5 μ m.
- (Previously Presented) A composition according to claim 41, wherein said kaolin clay has a d₅₀ ranging from about 0.1 µm to about 0.5 µm.
- 44. (Previously Presented) A composition according to claim 5, wherein said kaolin clay has a shape factor greater than about 25.
- 45. (Previously Presented) A composition according to claim 5, wherein said kaolin clay has a shape factor greater than about 30.
- 46. (Previously Presented) A composition according to claim 5, wherein said kaolin clay has a shape factor greater than about 45.
- 47. (Previously Presented) A composition according to claim 5, wherein said kaolin clay has a shape factor less than about 25.

OK TO ENTER: /S.A./

02/11/2010

U.S. Application No. 10/538,012
Inventors: David SKUSE et al.
Attorney Docket No. 07810.0135-00
Response to Notice of Non-Compliant Amendment mailed December 10, 2009

- 48. (Previously Presented) A composition according to claim 5, wherein said kaolin clay has a shape factor ranging from about 5 to about 20.
- (Previously Presented) A composition according to claim 5, wherein said
 kaolin clay has a shape factor less than about 25 and a d_{sh} less than about 0.5 µm.
- (Previously Presented) A composition according to claim 5, wherein said kaolin clay has a steepness greater than about 20.
- (Previously Presented) A composition according to claim 5, wherein said kaolin clay has a steepness ranging from about 25 to about 45.
- (Previously Presented) A coating composition according to claim 23,
 wherein the at least one binder comprises a component other than starch.
- 53. (Previously Presented) A coating composition according to claim 25, further comprising an optional component in an amount of less than about 10% by weight, relative to the total weight of the composition.